IN THE CLAIMS:

Please add new claims 19-61 as follows:

19. (Newly added) An electricity generating system, comprising:

a body;

a combustor provided in said body;

a turbine made of a plurality of turbine blades secured to a rotor, provided in said body and in fluid communication with said combustor;

a compressor chamber provided in said body and in fluid communication with said combustor;

a plurality of compressor blades secured to said rotor, said compressor blades positioned within a compressor chamber;

an air inlet port in fluid communication with said compressor chamber;

an exit port in fluid communication with said turbine;

a plurality of magnets secured to said rotor;

and a stator made of a magnetically attracted material provided in said body, said stator positioned in close proximity to said plurality of magnets whereby rotation of said rotor causes a change in flux about said stator hereby generating electricity;

wherein said combustor is an annular combustor and comprises:

an outer housing wall;

an outer combustor wall; and

an inner combustor wall, said outer housing wall and said outer combustor wall defining an air flow passageway in fluid communication with said compressor chamber and said inner combustor wall and said outer combustor wall defining a combustion chamber in fluid communication with said turbine and the air flow passageway; and

a fuel injector passing through said outer housing wall; and

a premix chamber attached to said outer combustor wall having a first end in fluid communication with said fuel injector and the air flow passageway, said premix chamber having a second end positioned within the combustion chamber whereby fuel and compressed air can flow into said premix chamber and become mixed in said premix chamber to form a fuel/air mixture that exits from said second end of said premix chamber into said combustion chamber.

20. (Newly added) An electricity generating system as claimed in claim 19, further comprising a premix conduit having one end secured to said outer combustor wall and having a second end communicating with said premix chamber intermediate of said premix chamber first end and said premix chamber second end, said premix conduit in fluid communication with said air flow passageway and said premix chamber.

21. (Newly added) An electricity generating system as claimed in claim 19, wherein said second end of said premix chamber diverges.

22. (Newly added) An electricity generating system as claimed in claim 19, wherein an end of said fuel injector where fuel exits into said premix conduit is spaced a distance away from said first end of said premix conduit.

23. (Newly added) An electricity generating system as claimed in claim 19, further comprising an igniter positioned within said combustion chamber.

24. (Newly added) An electricity generating system as claimed in claim

19, wherein said premix chamber includes means for swirling material passing through said premix chamber.

25. (Newly added) An electricity generating system, comprising:

a body;

a combustor provided in said body;

a turbine made of a plurality of turbine blades secured to a rotor, provided in said body and in fluid communication with said combustor;

a compressor chamber provided in said body and in fluid communication with said combustor;

a plurality of compressor blades secured to said rotor, said compressor blades positioned within a compressor chamber;

an air inlet port in fluid communication with said compressor chamber;

an exit port in fluid communication with said turbine;

a plurality of magnets secured to said rotor; and

a stator made of a magnetically attracted material provided in said body, said stator positioned in close proximity to said plurality of magnets whereby rotation of said rotor causes a change in flux about said stator hereby generating electricity;

wherein said plurality of compressor blades is longitudinally spaced by a ring receiving space from said plurality of turbine blades defined by said rotor, said electricity generating system further comprising a split ring secured to said body and positioned within said ring receiving space, said split ring defining a hole through which said rotor passes, said ring separating said compressor blades from said turbine blades to prevent gases from flowing directly to said turbine blades from said compressor blades, and from said turbine blades to said

compressor blades.

26. (Newly added) An electricity generating system as claimed in claim 25, wherein said split ring includes two sections, wherein each section includes two spaced apart walls defining a gas gap which is in fluid communication with said combustor.

27. (Newly added) An electricity generating system, comprising:

a body;

a combustor provided in said body;

a turbine made of a plurality of turbine blades secured to a rotor, provided in said body and in fluid communication with said combustor;

a compressor chamber provided in said body and in fluid communication with said combustor;

a plurality of compressor blades secured to said rotor, said compressor blades positioned within a compressor chamber;

an air inlet port in fluid communication with said compressor chamber;

an exit port in fluid communication with said turbine;

a plurality of magnets secured to said rotor;

and a stator made of a magnetically attracted material provided in said body, said stator positioned in close proximity to said plurality of magnets whereby rotation of said rotor causes a change in flux about said stator thereby generating electricity; and

a heat exchanger comprising an exit stream passageway fluidly coupled to said turbine and said exit port, and a compressed air inlet passageway in fluid communication with said compressor chamber and said combustor whereby said gas exhaust passageway is positioned in

close proximity to said compressed air inlet passageway so that heat from exhaust gases passing through said gas exhaust passageway can flow to compressed air passing through said compressed air inlet passageway thereby cooling the exhaust gases and heating the compressed air.

28. (Newly added) An electricity generating system as claimed in claim 27, wherein said compressed air inlet passageway and said gas exhaust passageway include a common wall.

29. (Newly added) An electricity generating system as claimed in claim 27, wherein said compressed air passageway includes a plurality of tubes that pass through said gas exhaust passageway.

30. (Newly added) An electricity generating system, comprising:

a body;

a combustor provided in said body;

a turbine made of a plurality of turbine blades secured to a rotor, provided in said body and in fluid communication with said combustor;

a compressor chamber provided in said body and in fluid communication with said combustor;

a plurality of compressor blades secured to said rotor, said compressor blades positioned within a compressor chamber;

an air inlet port in fluid communication with said compressor chamber;

an exit port in fluid communication with said turbine;

a plurality of magnets secured to said rotor;

and a stator made of a magnetically attracted material provided in said body, said stator positioned in close proximity to said plurality of magnets whereby rotation of said rotor causes a change in flux about said stator thereby generating electricity; and

a bearing receiving portion of said rotor, wherein a center of mass of said magnets and center of mass of said stator is axially offset to cause preloading of said bearing due to a magnetic attraction of said stator and said magnets.

31. (Newly added) An electricity generating system as claimed in claim 30, wherein said bearing is a ball bearing having an inner race secured to said rotor, an annular outer race secured to said body and a plurality of balls received by said inner race and outer race whereby said inner race is longitudinally offset from said outer race.

32. (Newly added) An electrical system for a turbine/alternator with a gas driven turbine and permanent magnet alternator on a common shaft comprising:

means to provide electrical power to said turbine/alternator to start said turbine/alternator to achieve self-sustained operation of said turbine/alternator; and

means to output electric power from said permanent magnet turbine/alternator to supply the electric power to a load.

33. (Newly added) The system of claim 32, wherein said gas driven turbine comprises a fuel pump and an oil pump which are driven by a single motor.

34. (Newly added) The system of claim 32, wherein said gas driven

turbine comprises a turbine engine and a compressor arranged next to said turbine engine, said turbine engine and said compressor being separated by a seal plate assembly formed as a split ring which is made up of two semi-circular sections.

35. (Newly added) The system of claim 32, further comprising means to modulate said output from permanent magnet alternator if the exhaust temperature exceeds a predetermined maximum temperature for a predetermined period.

36. (Newly added) An electricity generating system, comprising:

a body;

a combustor provided in said body;

a turbine made of a plurality of turbine blades secured to a rotor, provided in said body and in fluid communication with said combustor;

a compressor chamber provided in said body and in fluid communication with said combustor;

a plurality of compressor blades secured to said rotor, said compressor blades positioned within a compressor chamber;

an air inlet port in fluid communication with said compressor chamber;

an exit port in fluid communication with said turbine;

a plurality of magnets secured to said rotor;

a stator made of a magnetically attracted material provided in said body, said stator positioned in close proximity to said plurality of magnets whereby rotation of said rotor causes a change in flux about said stator thereby generating electricity; and

wherein the system is adapted to receive liquid fuel.

37. (New added) An electricity generating system, comprising:

a body;

a combustor provided in said body;

a turbine made of a plurality of turbine blades secured to a rotor, provided in said body and in fluid communication with said combustor;

a compressor chamber provided in said body and in fluid communication with said combustor;

a plurality of compressor blades secured to said rotor, said compressor blades positioned within a compressor chamber;

an air inlet port in fluid communication with said compressor chamber;

an exit port in fluid communication with said turbine;

a plurality of magnets secured to said rotor;

a stator made of a magnetically attracted material provided in said body, said stator positioned in close proximity to said plurality of magnets whereby rotation of said rotor causes a change in flux about said stator thereby generating electricity; and

wherein the system is adapted to receive gaseous fuel.

38. (Newly added) An electricity generating system, comprising:

a body;

a combustor provided in said body;

a turbine made of a plurality of turbine blades secured to a rotor, provided in said body and in fluid communication with said combustor;

a compressor chamber provided in said body and in fluid communication with said

combustor;

a plurality of compressor blades secured to said rotor, said compressor blades positioned within a compressor chamber;

an air inlet port in fluid communication with said compressor chamber;

an exit port in fluid communication with said turbine;

a plurality of magnets secured to said rotor;

a stator made of a magnetically attracted material provided in said body, said stator positioned in close proximity to said plurality of magnets whereby rotation of said rotor causes a change in flux about said stator thereby generating electricity;

a fuel supply line in communication with the combustor; and

a purge valve associated with the fuel supply line to avoid varnishing of liquid fuel on shutdown.

39. (Newly added) An electricity generating system, comprising:

a body;

a combustor provided in said body;

a turbine made of a plurality of turbine blades secured to a rotor, provided in said body and in fluid communication with said combustor;

a compressor chamber provided in said body and in fluid communication with said combustor;

a plurality of compressor blades secured to said rotor, said compressor blades positioned within a compressor chamber;

an air inlet port in fluid communication with said compressor chamber;

an exit port in fluid communication with said turbine;

a plurality of magnets secured to said rotor;

a stator made of a magnetically attracted material provided in said body, said stator positioned in close proximity to said plurality of magnets whereby rotation of said rotor causes a change in flux about said stator thereby generating electricity; and

a controller to monitor and control the turbine and compressor, wherein the controller is a microprocessor controlled engine controller.

40. (Newly added) An electricity generating system, comprising:

a body;

a combustor provided in said body;

a turbine made of a plurality of turbine blades secured to a rotor, provided in said body and in fluid communication with said combustor;

a compressor chamber provided in said body and in fluid communication with said combustor;

a plurality of compressor blades secured to said rotor, said compressor blades positioned within a compressor chamber;

an air inlet port in fluid communication with said compressor chamber;

an exit port in fluid communication with said turbine; a plurality of magnets secured to said rotor;

a stator made of a magnetically attracted material provided in said body, said stator positioned in close proximity to said plurality of magnets whereby rotation of said rotor causes a change in flux about said stator thereby generating electricity; and

a cylindrical sleeve made of high temperature resistant polymer resin having carbon fibers, whereby the sleeve retains the magnets to withstand centrifugal force generated by high

rotational speeds.

41. (Newly added) An electricity generating system, comprising:

a body;

a combustor provided in said body;

a turbine made of a plurality of turbine blades secured to a rotor, provided in said body and in fluid communication with said combustor;

a compressor chamber provided in said body and in fluid communication with said combustor;

a plurality of compressor blades secured to said rotor, said compressor blades positioned within a compressor chamber;

an air inlet port in fluid communication with said compressor chamber;

an exit port in fluid communication with said turbine;

a plurality of magnets secured to said rotor;

a stator made of a magnetically attracted material provided in said body, said stator positioned in close proximity to said plurality of magnets whereby rotation of said rotor causes a change in flux about said stator thereby generating electricity;

a fuel pump in fluid communication with said combustor; and

42. (Newly added) A method for operating an electricity generating system, comprising the steps of:

rotating a rotor having a plurality of compressor blades and a plurality of turbine blades attached thereto, and a plurality of magnets positioned about said rotor, said plurality of magnets positioned in close proximity to a stator whereby electricity is provided to said stator to cause

rotation of the rotor;

drawing air into a compressor that includes the plurality of compressor blades;

compressing the drawn air by the compressor;

flowing the compressed air to a combustion chamber;

mixing fuel with at least a portion of the compressed air flowing into the combustion chamber resulting in fuel/air mixture;

igniting the fuel/air mixture in the combustion chamber resulting in heat energy;

passing the heat energy and any remainder of the compressed air through a turbine that includes the plurality of the turbine blades;

exiting the heat energy and the remainder of the compressed gases;

stopping the electricity provided to the stator when the rotor rotates at a first speed; and

generating electricity by rotating the magnets positioned about the rotor coacting with the stator.

43. (Newly added) The method for operating the electricity generating system in accordance with claim 42 wherein the generator is used as a motor to start rotating the rotor and wherein the motor is powered by either an AC or DC power source and wherein the generator is converted to a generator mode once operating speed is reached.

44. (Newly added) A method for operating an electricity generating system in accordance with claim 42, wherein the step of mixing fuel comprises introducing dilution air within the mixture to regulate the turbine inlet temperature thereby minimizing emissions.

45. (Newly added) The method in accordance with claim 44 wherein the fuel/air mixture is premixed.

46. (Newly added) The method in accordance with claim 45 wherein the fuel/air mixture is rich premixed.

47. (Newly added) The method in accordance with claim 42 wherein the step of mixing fuel comprises vaporizing liquid fuel to aid combustion by using a plurality of primary premix conduits extending circumferentially within an outer combustor liner wall.

48. (Newly added) The method in accordance with claim 42 further including the step of purging the fuel from a supply line to the combustor upon shutdown to prevent fuel coking/clogging.

49. (Newly added) The method in accordance with claim 42 further including the step of measuring the temperature of the exhaust gas and utilizing this measurement to control the parameters affecting combustion.

50. (Newly added) The method in accordance with claim 42 further including the step of controlling the amount of air entering into the secondary air supply to control emissions over a range of operating conditions to maintain a constant flame temperature.

51. (Newly added) The method in accordance with claim 42 wherein the step of rotating the rotor is comprised of starting whereby the engine rotor is driven by battery power, while fuel is simultaneously supplied to the combustion chamber and the igniter is activated.

52. (Newly added) The method in accordance with claim 42 wherein rotation of the rotor is increased by using a predetermined fuel flow rate based upon air inlet and exhaust gas temperatures.

53. (Newly added) The method in accordance with claim 52 further including controlling electrical and chemical energy input based upon acceleration rates and exhaust gas temperature.

54. (Newly added) The method in accordance with claim 52 further including the steps of controlling the system parameters to maintain nominal rotor speed during 100% on-load and off-load conditions.

55. (Newly added) The method in accordance with claim 52 wherein the step of rotating the rotor to start the system is comprised of the step of driving the engine rotor by an external power source, while fuel is simultaneously supplied to the combustion chamber and the igniter is activated.

56. (Newly added) A method of controlling a turbine/alternator having a gas driven turbine and permanent magnet alternator on a common shaft comprising:

providing electrical power to said turbine/alternator in a starting operation to start the turbine/alternator to achieve self-sustained operation of said turbine/alternator; and

59. (Newly added) An electricity generating system, comprising:

a body;

a combustor provided in said body;

a turbine having a plurality of turbine blades secured to a rotor, provided in said body and in fluid communication with said combustor;

a compressor chamber provided in said body and in fluid communication with said combustor;

a plurality of compressor blades secured to said rotor, said compressor blades positioned within a compressor chamber;

an air inlet port in fluid communication with said compressor chamber;

an exit port in fluid communication with said turbine;

at least one magnet secured to said rotor; and

a stator made of a magnetically attracted material provided in said body, said stator positioned in close proximity to said at least one magnet whereby rotation of said rotor causes a change in flux about said stator thereby generating electricity.

60. (Newly added) A method for operating an electricity generating system, comprising the steps of:

rotating a rotor having a plurality of compressor blades and a plurality of turbine blades attached thereto, and at least one magnet positioned about said rotor, said at least one magnet positioned in close proximity to a stator whereby electricity is provided to said stator to cause rotation of the rotor;

drawing air into a compressor that includes the plurality of compressor blades;

compressing the drawn air by the compressor;

flowing the compressed air to a combustion chamber;

mixing fuel with at least a portion of the compressed air flowing into the combustion